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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,859	09/30/2003	Kelly Statham	015390550	1877
24628 7590 09/10/2009 Husch Blackwell Sanders, LLP Husch Blackwell Sanders LLP Welsh & Katz 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606				
			EXAMINER LAO, LUN S	
			ART UNIT 2614	PAPER NUMBER
			MAIL DATE 09/10/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/675,859

Applicant(s)

STATHAM ET AL.

Examiner

LUN-SEE LAO

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Introduction

1. This action is response to the amendment filed on 06-29-2009. Claims 1, 17 and 19 have been amended. Claims 1-20 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06-29-2009 has been entered.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (US PAT. 6,025,553) in view of Shiraishi (US PAT. 6,954,538) and Derks et al. (US PAT. 6,021,119).

Consider claim 1 Lee teaches a method for remotely controlling a set of functions related to a wireless audio system from a remote central control(see figs 1-,2), said method comprising the steps of:

providing an audio system that includes a transmitter (see fig.2(73)) and a receiver(75); detecting(15) an audio signal via an acoustic transducer located within the transmitter(see fig.4); modulating a tone burst (the tone controller in fig. 4(18)) manipulate the tone burst and see col. 5 line 63-col. 6 line 14) with a frame of data (the package reads on the frame data), said frame of data containing two or more characteristics regarding said transmitter disposed within respective predetermined locations of the frame; mixing (20) the modulated tone burst(18) with the detected audio signal(signals detected by microphone15); modulating the mixed audio signal and modulated tone burst; transmitting(24) the modulated audio signal and tone burst from the transmitter (24) to the receiver(see fig.2 (75)) and storing the frame of data therein; establishing a link between the receiver of said wireless audio system and a central control for remotely controlling the set of functions through a communication network(see figs 1-4 and col. 4 line 32-col. 5 line 61); but Lee does not explicitly teach a frame of data, including a header with address information, a payload and a trailer, said payload of said frame of data containing plurality of predetermined, real time status values of monitored functions within said transmitter disposed within respective predetermined locations of the frame; and determining whether or not any problems exist by monitoring said data stored in said receiver from said central control;

communicating from said remote control to said audio system appropriate remedial actions to alleviate any of said problems.

However, Derks teaches a frame of data, including a header with address information, a payload and a trailer, said payload of said frame of data containing plurality of predetermined, real time status values of monitored functions within said transmitter disposed within respective predetermined locations of the frame (e.g., the predetermined locations of the frame can be any predetermined location in the local area network or wide area network) (see figs. 6-7 and col. 7 line 9-col. 8 line 67 col. 13 line 10-63).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Derks into the teaching of Lee in order to identify the data packet as response data packet.

On the other hand, Shiraishi teaches establishing a link between the receiver of said wireless audio system (fig.4) and a central control for remotely controlling the set of functions through a communication network (reads on 300 in fig. 4 and 100 with speakers network (201-206) and see col. 7 line 44-col. 8 line 18);

determining (see fig.3) whether or not any problems exist (by test tone) by monitoring said data stored in said receiver from said central control; communicating from said remote control to said audio system appropriate remedial actions to alleviate any of said problems (see col. 6 line 13-col. 7 line 42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Shiraishi into Lee so that greatly improves the quality of wireless networks in terms of reliability.

Consider claims 2-5 Lee teaches that the audio system comprises a wireless audio system (see figs 1-4 and col. 4 line 32-col. 5 line 61); and the wireless audio system comprises a wireless microphone system (see figs 1-4 and col. 4 line 32-col. 5 line 61); and the transmitter comprises a handheld (see figs 1-4 and col. 4 line 32-col. 5 line 61); and the transmitter comprises a body pack (see figs 1-4 and col. 4 line 32-col. 5 line 61).

Consider claim 6 Lee as modified by Shiraishi and Derks teaches the receiver comprises a diversity receiver (in Derks, see figs. 1-1-5 and col. 4 line 24-col. 5 line 67).

Consider claims 7 and 9, Shiraishi teaches that the data comprises data regarding characteristics of said transmitter or said receiver that can be monitored but not controlled (see figs 1-4 and col. 4 line 32-col. 5 line 61); and the data comprises data regarding characteristics of said transmitter or said receiver that can be monitored and controlled (see figs 1-4 and col. 4 line 32-col. 5 line 61).

Consider claim 8 Lee as modified by Shirashi and Derks teaches that said data is selected from a group consisting of: receiver internet protocol address, receiver link address, receiver RF level, receiver AF level (in Derks, see fig. 15 and col. 13 line 40-63).

Consider claim 10 Lee teaches that said data is selected from a group consisting of: receiver name, receiver frequency, receiver squelch level, receiver meter hold, receiver

antenna power, receiver mute, default display on receiver state, receiver lock condition, receiver load present, and receiver save preset(col. 9 line 17-67).

Consider claim 12 it is essentially similar to claim 10 and is rejected for the reason stated above apropos to claim 10.

Consider claim 11 Lee teaches that the communicating step includes the step of transmitting replacement data to said receiver that is implemented by said receiver (see figs 1-4 and col. 4 line 32-col. 5 line 61).

Consider claims 13-14 Lee as modified by Shirashi and Derks teach that the receiver of said audio system comprises a master receiver and two or more slave receivers that are operatively coupled to said master receiver, each of said slave receivers including a slave transmitter associated therewith(in Derks, see figs. 1-1-5 and col. 4 line 24-col. 5 line 67); and the transmitting step comprises the step of transmitting data from the slave transmitter associated with one of said slave receivers to said master receiver, and transmitting said data from said master receiver to said central control (in Derks, see figs. 1-5 and col. 4 line 24-col. 5 line 67).

Consider claim 15 Lee teaches said transmitting step comprises the steps of combining data associated with said transmitter(see fig.4(24)) with a pilot tone signal(oscillator 3 in fig. 4, reads on the pilot tone), mixing (20) said combined data/pilot tone signal with an audio signal(15), and transmitting said combined data/pilot tone/audio signal to said receiver(see figs 1-4 and col. 4 line 32-col. 5 line 61).

5. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Lee (US PAT. 6,025,553) as modified by Shiraishi (US PAT. 6,954,538) and Derks et al. (US PAT. 6,021,119) as applied to claim 1 above, and further in view of Chang (US PAT. 6,337,913).

Consider claim 16 Lee as modified Shirashi and Derks does not explicitly teach the pilot tone signal is at approximately 32 kHz.

However, Chang teaches that the pilot tone signal is at approximately 32 kHz (see abstract and col. 3 line 63-col. 4 line 12).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Chang into the teaching of Lee, Shiraishi and Derks to achieve a high receiving performance.

6. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Derks et al. (US PAT. 6,021,119) in view of Lee (US PAT. 6,025,553).

Consider claim 17, Derks teaches a wireless microphone system comprising (see fig. 4):

- a microphone (46);

- a CPU (see fig. 4 (40) microcontroller) that digitally provides coded (see col. 4 line 24-col. 5 line 67) and serialized information including a frame of data containing a header with address information, and a payload including a plurality of predetermined, real time status indicators of the wireless microphone said plurality of status indicators of monitored functions within disposed within respective predetermined locations of the payload of the frame (reads on, local area network and wide area network) (see figs. 6-

7 and col. 7 line 9-col. 8 line 67 col. 13 line 10-63); but Derks does not explicitly teaches tone burst creation circuitry that incorporates the provided coded and serialized information into a pilot tone burst; a mixer that mixes detected audio from the microphone with the pilot tone burst; a modulator that modulates the mixed audio and pilot tone burst; and a wireless transmitter that wirelessly transmits an the modulated audio signal from the microphone mixed with the pilot tone burst.

However, Lee teaches tone burst creation circuitry that incorporates the provided coded and serialized information into a pilot tone burst(the tone controller reads on a tone burst(the tone controller in fig. 4(18)) manipulates a tone burst and see col. 5 line 63-col. 6 line 14); a mixer(see fig.4 (20)) that mixes detected audio from the microphone with the pilot tone burst; a modulator (20) that modulates the mixed audio and pilot tone burst; and a wireless transmitter (24) that wirelessly transmits an the modulated audio signal from the microphone mixed with the pilot tone burst (see fig. 4 and col. 5 line 25-col. 6 line 20).

Therefore, it would have been obvious to one of the ordinary skill in the at the time the invention was made to combine the teaching of Lee into Derks so that greatly improves the quality of wireless networks in terms of reliability, range/coverage, versatility, and flexibility.

Consider claim 18 Derks teaches a wireless receiver located in the surrounding area of the wireless microphone that receives the transmitted audio signal and plurality of status indicators from the wireless microphone; a central control that remotely controls a set of functions of the wireless microphone system; and a communications link

established between the wireless receiver and central controller through a public communication network (see figs. 1-5 and col. 4 line 24-col. 5 line 67).

Consider claim 19 Derks teaches a wireless microphone system comprising (see fig.4):

a handheld wireless microphone or body pack including an audio management block(see fig.2),

a CPU(see fig.4 (40) microcontroller);

a mixer (see fig.4 (47a))

a modulator(40) and

an output antenna(48a) wherein the audio management block changes an audio signal into an electric signal, the CPU provides coded (see col. 4 line 24-col. 5 line 67)

and serialized information about the handheld wireless microphone or body pack

including a data frame, said data frame including a header with address information and a payload, said payload including a plurality of predetermined, real time status values of monitored functions within the handheld wireless microphone(see figs.2,3,6,7 and col.

13 line 10-62), the CPU modules with the coded and serialized information including

the data frame where the coded and serialized information occupies respective

predetermined locations within the frame and the modulator modulates the changed

audio signal for wireless transmission through the output antenna(see figs 2-7 and col. 7 line 9-col. 8 line 67, col. 13 line 10-62); but Derks does not explicitly teaches the mixer

mixes the changed audio signal and modulated pilot tone and the modulator modulates

the mixing the mixed changed audio signal and pilot tone burst for wireless transmission through the output antenna.

However, Lee teaches the mixer(see fig.4 (20)) mixes the changed audio signal and modulated pilot tone (oscillator 3 in fig. 4, reads on the pilot tone) and the modulator (20) modulates the mixing the mixed changed audio signal and pilot tone burst (the tone controller in fig. 4(18)) reads on a tone burst and see col. 5 line 63-col. 6 line 14) for wireless transmission through the output antenna(see fig. 4 (24) and col. 5 line 25-col. 6 line 20).

Therefore, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to combine the teaching of Lee into Derks so that greatly improves the quality of wireless networks in terms of reliability, range/coverage, versatility, and flexibility.

Consider claim 20 Derks teaches the wireless microphone system further comprising:

a wireless receiver located in the surrounding area of the handheld wireless microphone or body pack that receives the transmitted audio signal and plurality of status indicators from the wireless microphone(see fig.2 (46)); a central control that remotely controls a set of functions of the wireless microphone system; and a communications link established between the wireless receiver and central controller through a public communication network(see figs. 1-5 and col. 4 line 24-col. 5 line 67).

Response to Arguments

7. Applicant's arguments filed 06-29-2009 have been fully considered but they are not persuasive.

Applicant argued that the combination of Lee, Shiraishi or Derks et al. fail to teach or suggestion of the transmission of a "modulating a tone burst with a frame of data,... containing a plurality of predetermined, real time status values of monitored functions within said transmitter disposed within respective predetermined locations of the frame (see the remarks page 9).

The examiner disagrees. Lee teaches modulating a tone burst (the tone controller in fig. 4(18)) manipulate the tone burst and see col. 5 line 63-col. 6 line 14) and Derks teaches a frame of data, including a header with address information, a payload and a trailer, said payload of said frame of data containing plurality of predetermined, real time status values of monitored functions within said transmitter disposed within respective predetermined locations of the frame (see figs. 6-7 and col. 7 line 9-col. 8 line 67 col. 13 line 10-63). Therefore the combination meets the recited in claim 1 limitation.

Applicant further argued that Derks fails to teach a CPU that provides coded and serialized information including a frame of data containing a header with address information, and a payload including a plurality of predetermined, real time status indicators of monitored functions within the wireless microphone, said plurality of status indicators disposed within respective predetermined locations of the payload of the frame" (see the remarks page 10, last paragraph).

The examiner disagrees. Derks teaches a CPU (see fig.4 (40) microcontroller) that digitally provides coded (see col. 4 line 24-col. 5 line 67) and serialized information

including a frame of data containing a header with address information, and a payload including a plurality of predetermined, real time status indicators of the wireless microphone said plurality of status indicators of monitored functions within disposed within respective predetermined locations of the payload of the frame (see figs. 6-7 and col. 7 line 9-col. 8 line 67 col. 13 line 10-63). It meets the limitation as recited in claims 17 and 19.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Barany et al. (US 2002/0064164) is cited to show other related method and apparatus for remote control of an audio source such as a wireless microphone system.

9. Any response to this action should be mailed to:

Mail Stop ____ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

(571) 273-8300

Hand-delivered responses should be brought to:

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner

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can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See
/LUN-SEE LAO/
Examiner, Art Unit 2614
Patent Examiner
US Patent and Trademark Office
Knox
571-272-7501
Date 09-02-2009

/Vivian Chin/

Supervisory Patent Examiner, Art Unit 2614